NMEA Buffer , Baud rate converter , NMEA multiplexer.

Input: NMEA 0183
Output: NMEA 0183 to 14 channels
Multiplexer and baud rate conversion enabled.

NMEA buffer mode functions.

It can use two inputs and 14 individual high impedance outputs.
The output will be processed from input 1 , (port1) by default.
The system will automatically transfer to input 2 (port 2) if input 1 is missing.
We can switch to input 2 manually by looping the port 0 terminals together.

NMEA multiplexer mode functions.

It is able to use an NMEA multiplexer function with 3 inputs by arranging the jumper set to MUX position and Dip 1 to ON.
The input ports will be **PORT0, PORT1, PORT2.**
AIS can connect to **PORT 1** or **PORT 2**. Set the baud rate as per the below options.

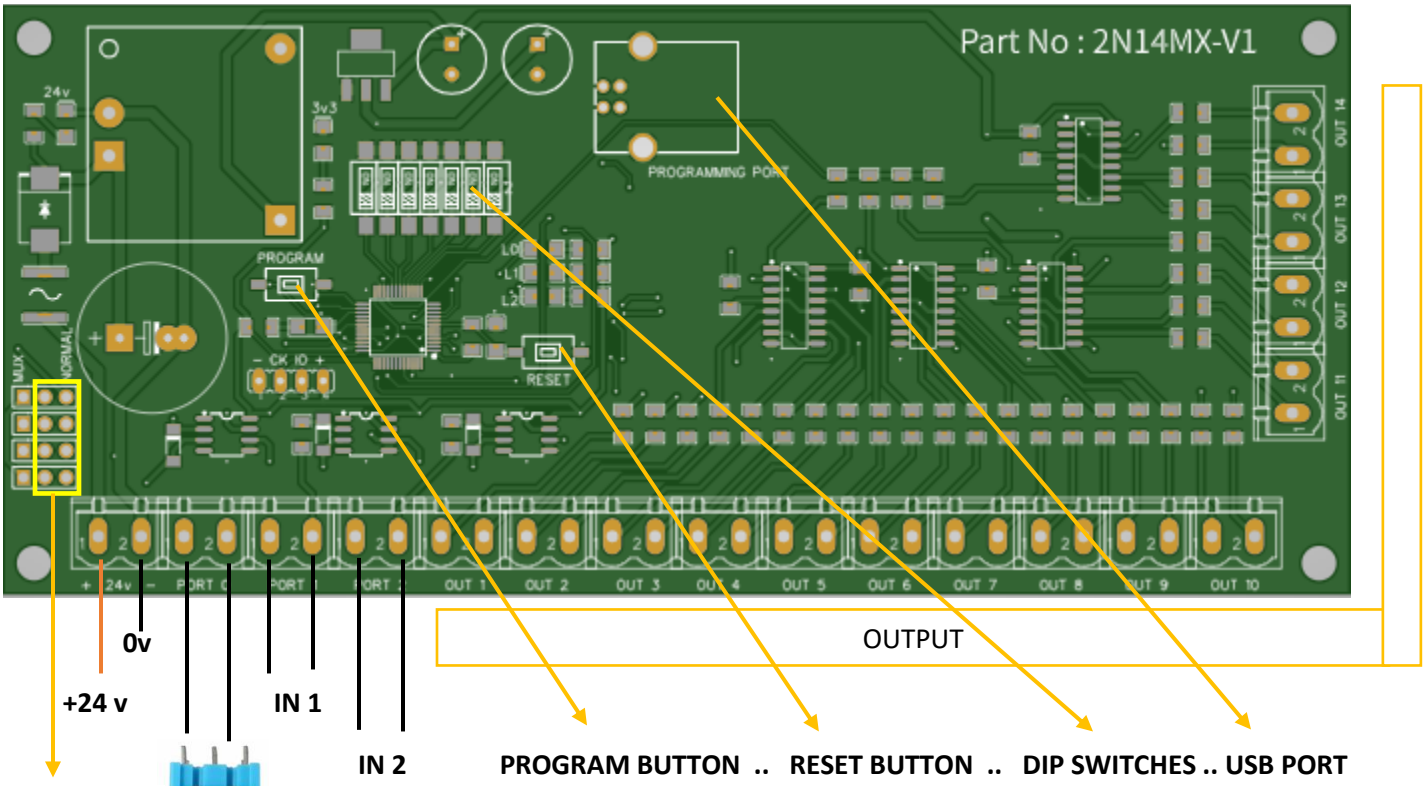
Baud rate converter function.

The PORT1 and output can adjust baud rates to 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 by Dip switch selection.

CONTENTS:

NMEA Distributor

1. NMEA BUFFER MODE TERMINAL AND SELECTIONS.



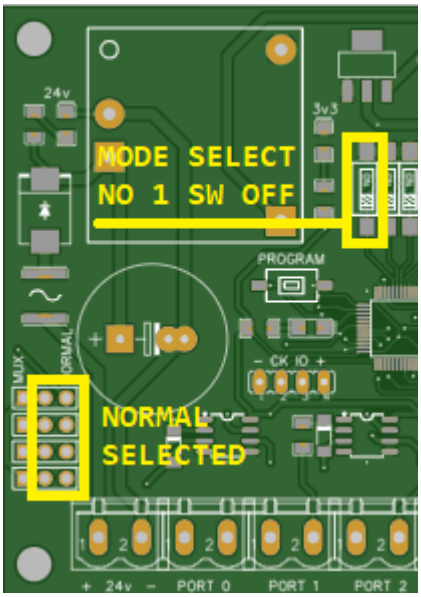
JUMPER IN NMEA BUFFER MODE.

Optional selector switch:

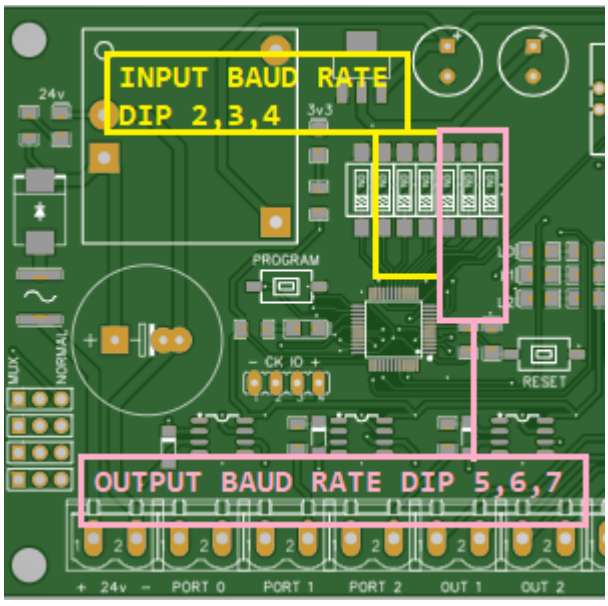
ON – Manual mode, forced to select input 2.

OFF – System in automatic mode. Automatic selection to input 2 when the input 1 is failed.

2. NMEA BUFFER MODE SELECTION.



3. DIP SWITCHES FOR INPUT AND OUTPUT.



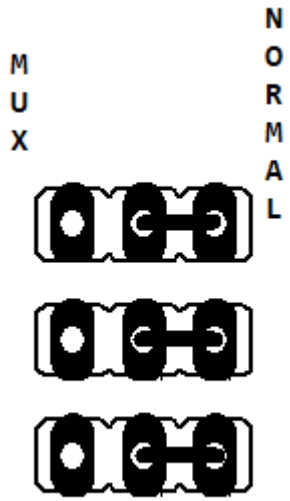
Rev 1.0

* **THE DIP SWITCH 1 AND JUMPER SELECTIONS WERE REQUIRED TO CHANGE TO THE MULTIPLEXER MODE.**

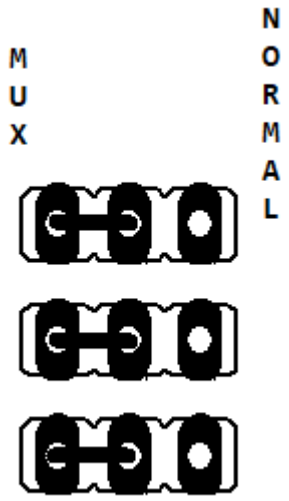
4. DIP SWITCH SELECTION FOR HARDWARE MODE.

	DIP SWITCH **1**
NMEA BUFFER MODE	OFF
3 CHANNEL MULTIPLEXER MODE	ON

5. BUFFER MODE JUMPER SELECTION.



6. MULTIPLEXER MODE JUMPER SELECTION.



7. INPUT BAUD RATE SELECTION TABLE.

BAUD RATE	DIP SWITCH **2**	DIP SWITCH **3**	DIP SWITCH **4**
1200	OFF	OFF	OFF
2400	ON	OFF	OFF
4800	OFF	ON	OFF
9600	ON	ON	OFF
19200	OFF	OFF	ON
38400	ON	OFF	ON
57600	OFF	ON	ON
115200	ON	ON	ON

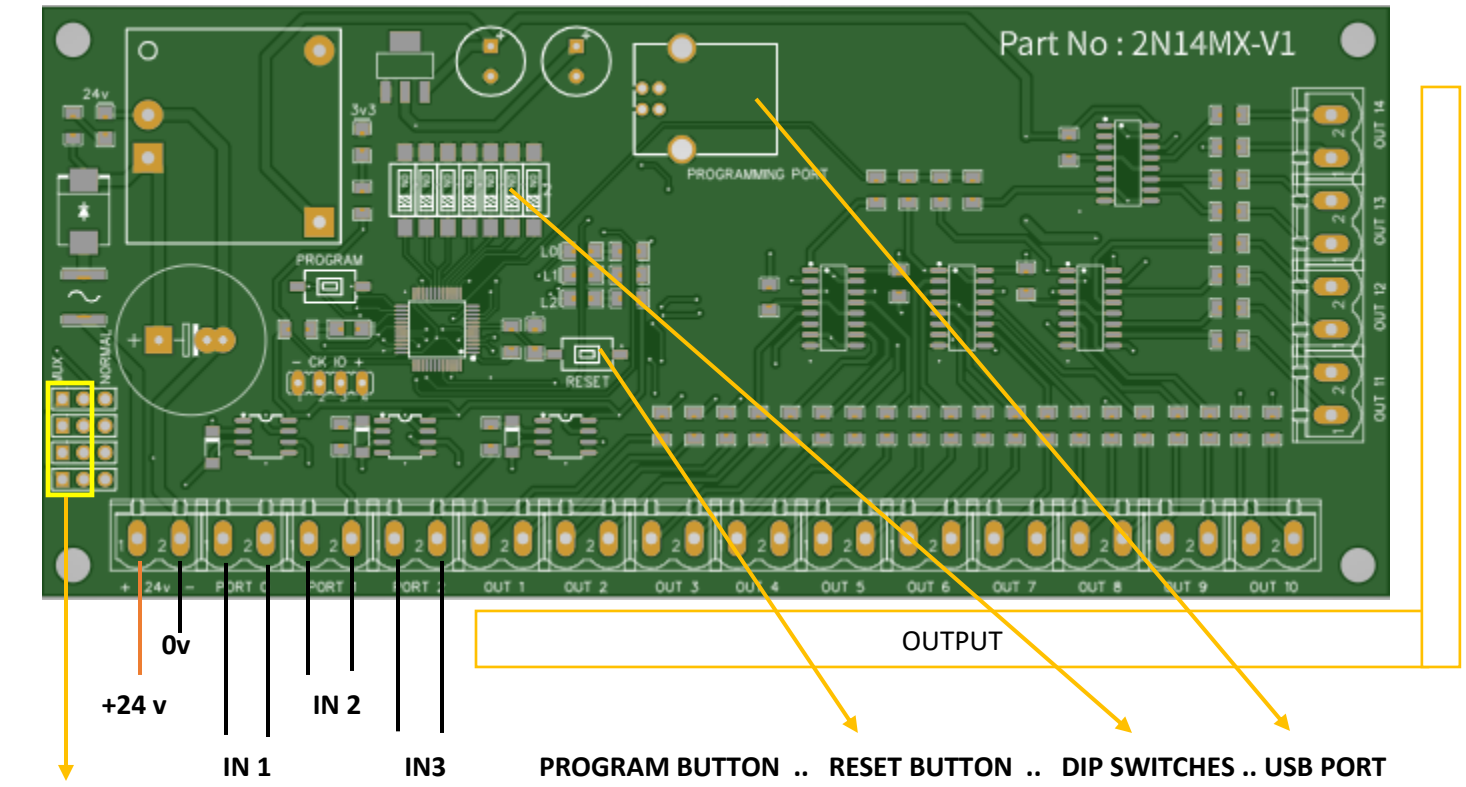
8. OUTPUT BAUD RATE SELECTION TABLE.

BAUD RATE	DIP SWITCH 5	DIP SWITCH 6	DIP SWITCH 7
1200	OFF	OFF	OFF
2400	ON	OFF	OFF
4800	OFF	ON	OFF
9600	ON	ON	OFF
19200	OFF	OFF	ON
38400	ON	OFF	ON
57600	OFF	ON	ON
115200	ON	ON	ON

9. FUNCTION OF THE USB PORT.

- THE PROCESSED DATA IS AVAILABLE THROUGH THE USB-B TYPE PORT.
- BAUD RATE OF THE USB-B TYPE PORT AND INPUT PORT 1 WILL BE SAME.

10. NMEA MULTIPLEXER MODE (3 INPUT).



11. PROCESSED DATA ANALYSYS EXAMPLE.

INPUT 1 DATA (PORT 0)

```
$GPGLL,5153.16,N,00418.26,E*67
$GPVTG,1.0,T,1.0,M,7.0,N,1.0,K,*64
$GPRMC,0.0,A,0.0,N,0.0,E,7.0,0.0,*04
$GPZDA,161207,22,6,2001,5*67
```

INPUT 1 DATA (PORT 1)

```
$HEHDT,101.5,T*2A
$HEROT,2.4,A*2D
$HEHDT,102.5,T*29
$HEROT,3.4,A*2C
```

INPUT 3 DATA (PORT 2)

```
!AIVDM,1,1,4,A,100000G00:3uuBb>mOs@qPj02000,0*2B
!AIVDM,2,1,6,A,500000@EAa0<Q7GGCH1DlE<R0`5T4p000000000SBjFII4000I5PDRhC0@0000,0*7D
!AIVDM,2,2,6,A,000000000,0*20
!AIVDM,1,1,7,A,100000`00D3uuJf>mPi725R02000,0*11
!AIVDM,2,1,9,A,500000RLhJ9@7HG;?CDaD8Tp000000000000000RBjFII4000I2iDPC0@00000,0*53
!AIVDM,2,2,9,A,000000000,0*2F
!AIVDM,1,1,0,A,100000p00:3uttj>mQp@qPl02000,0*3C
```

OUTPUT DATA

```
$GPGLL,5153.16,N,00418.26,E*67
$GPVTG,1.0,T,1.0,M,7.0,N,1.0,K,*64
$GPRMC,0.0,A,0.0,N,0.0,E,7.0,0.0,*04
$GPZDA,161207,22,6,2001,5*67
$HEHDT,101.5,T*2A
$HEROT,2.4,A*2D
$HEHDT,102.5,T*29
$HEROT,3.4,A*2C
!AIVDM,1,1,4,A,100000G00:3uuBb>mOs@qPj02000,0*2B
!AIVDM,2,1,6,A,500000@EAa0<Q7GGCH1DlE<R0`5T4p000000000SBjFII4000I5PDRhC0@0000,0*7D
!AIVDM,2,2,6,A,000000000,0*20
!AIVDM,1,1,7,A,100000`00D3uuJf>mPi725R02000,0*11
!AIVDM,2,1,9,A,500000RLhJ9@7HG;?CDaD8Tp000000000000000RBjFII4000I2iDPC0@00000,0*53
!AIVDM,2,2,9,A,000000000,0*2F
!AIVDM,1,1,0,A,100000p00:3uttj>mQp@qPl02000,0*3C
```

12. PROGRAMMING MODE.

THROUGH OTA APPLICATION, THE HARDWARE CAN PROGRAM TO USE DIFFERENT HARDWARE FUNCTIONS.

THE PC REQURED A VALID INTERNET CONNECTION TO UPDATE SYSTEM PROGRAMME.
TO DETECT IN WINDOWS, A PROLIFIC USB DRIVER IS REQUIRED.
THE DOWNLOAD LINK FOR PROLIFIC DRIVER SOFTWARE IS : Products (prolific.com.tw)

13. THE LIST OF FADDITIONAL HARDWARE FUNCTIONS.

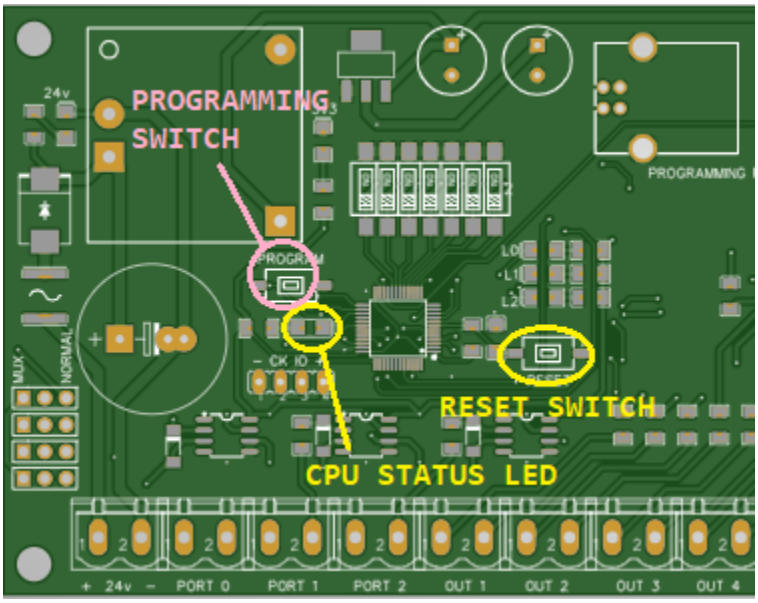
1. CONVERTER OF GPS SPEED TO WATER SPEED DATA.FROM **$GPVTG / $GPRMC** TO **$VDVBW/$VDVHW**.
2. GYRO/COMPSS HEADING TO $HEHRC NMEA CONVERTER
3. YOKOGAWA **$HEHRC** HEADING NMEA TO **$HEHDT** HEADING DATA CONVERTER
4. SPEED LOG NMEA **$VDVHW** TO **$VDVBW** AND VICE VERSA.
5. ECHOSOUNDER LOG PRINTER WITH GPS INPUT AND DEPTH NMEA INPUT.

14. ENABLE PROGRAMMING MODE.

HOLD THE PROGRAMME SWITCH, THEN PRESS THE RESET SWITCH TO ENABLE PROGRAMMING MODE.

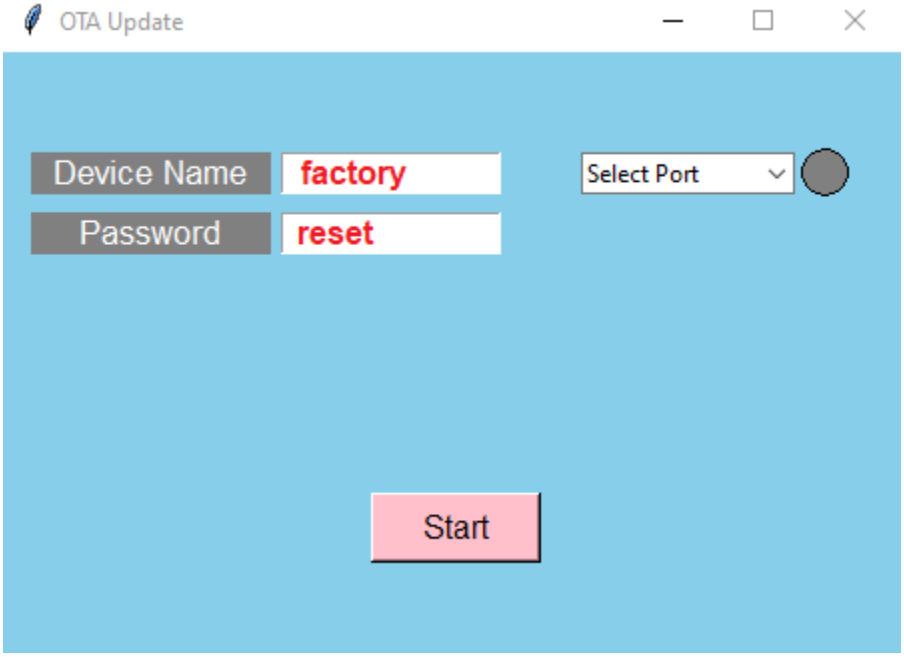
15. CPU STATUS LED INDICATION FUNCTIONS.

CPU RUNNING IN NORMAL MODE: GREEN LIGHT STEADY.
PROGRAMMING MODE ENABLED: GREEN LIGHT BLINK EVERY 1 SECONDS.



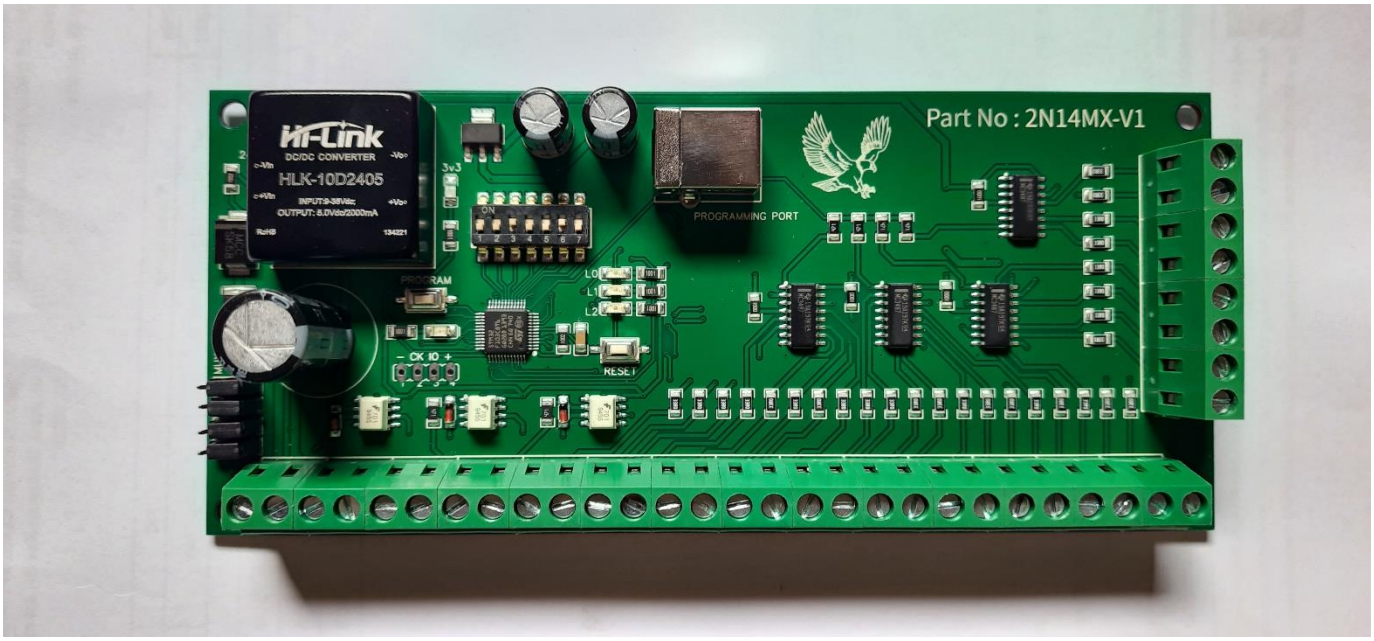
16. FACTORY RESET .

THE OTA APPLICATION INCLUDES A FACTORY RESET FUNCTION. DURING THE RESET, THE NMEA BUFFER PROGRAMME WILL LOAD INTO THE SYSTEM.



17. TECHNICAL SPECIFICATIONS.

Supply voltage	18-36VDC, secured against reversed polarity
Current consumption	50mA (100mA max. with fully loaded talker ports)
Input (NMEA buffer mode)	2 x NMEA 0183/RS-422, Galvanic opto-isolation
Input selection (NMEA buffer mode)	1 manual switch selector port and automatic switching function.
Input (NMEA multiplexer mode)	3 x NMEA 0183/RS-422, Galvanic opto-isolation
Input resistance	Greater than 800 Ohms
Output	14 x NMEA 0183/RS-422 high impedance state at each pair of differential output. One USB-B port output.
Input baud rate support	1200 - 115200 baud
Output baud rate support	1200 - 115200 baud
Dimensions	200 x 22 x 30mm
Power isolation	2100 V DC
Compatibility	Compatible with all NMEA 0183 versions without requiring configuration.
Protection	PTC self-resettable fuse and reverse polarity protection



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